Name:

at1121exam_practice: Radicals and Squares (v601)

Question 1

Simplify the radical expressions.

$$\sqrt{20} \qquad\qquad \sqrt{98} \qquad\qquad \sqrt{27}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x-7)^2}{2} - 9 \;=\; -1$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 8x = -7$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 3x^2 - 30x + 81$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v602)

Question 1

Simplify the radical expressions.

$$\sqrt{63} \qquad\qquad \sqrt{44} \qquad\qquad \sqrt{12}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x-9)^2}{10} - 2 \;=\; 8$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 8x = 33$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 2x^2 + 24x + 68$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v603)

Question 1

Simplify the radical expressions.

$$\sqrt{20} \qquad\qquad \sqrt{18} \qquad\qquad \sqrt{45}$$

Question 2

Find all solutions to the equation below:

$$2(x+8)^2 - 4 \;=\; 68$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 14x = 95$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 4x^2 + 40x + 93$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v604)

Question 1

Simplify the radical expressions.

$$\sqrt{99} \qquad\qquad \sqrt{8} \qquad\qquad \sqrt{44}$$

Question 2

Find all solutions to the equation below:

$$3(x+10)^2 - 4 \ = \ 71$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 6x \; = \; 91$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \; = \; 3x^2 + 24x + 54$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v605)

Question 1

Simplify the radical expressions.

$$\sqrt{27} \qquad\qquad \sqrt{99} \qquad\qquad \sqrt{20}$$

Question 2

Find all solutions to the equation below:

$$2(x+9)^2 + 3 \;=\; 35$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 14x = 95$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 2x^2 - 12x + 23$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v606)

Question 1

Simplify the radical expressions.

$$\sqrt{45} \qquad\qquad \sqrt{12} \qquad\qquad \sqrt{28}$$

Question 2

Find all solutions to the equation below:

$$5(x+7)^2 + 6 \;=\; 86$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 10x \;=\; 39$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \;=\; 3x^2 - 24x + 41$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v607)

Question 1

Simplify the radical expressions.

$$\sqrt{99} \qquad\qquad \sqrt{75} \qquad\qquad \sqrt{8}$$

Question 2

Find all solutions to the equation below:

$$4\left((x-7)^2 - 10\right) \;=\; 60$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 14x \;=\; -40$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \;=\; 3x^2 - 24x + 42$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v608)

Question 1

Simplify the radical expressions.

$$\sqrt{63} \qquad\qquad \sqrt{98} \qquad\qquad \sqrt{27}$$

Question 2

Find all solutions to the equation below:

$$3\left((x-10)^2 + 8\right) \;=\; 72$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 14x = -40$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 5x^2 - 40x + 77$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v609)

Question 1

Simplify the radical expressions.

$$\sqrt{63} \qquad\qquad \sqrt{45} \qquad\qquad \sqrt{18}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x+6)^2 - 4}{3} \;=\; 4$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 18x = 88$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 2x^2 - 24x + 68$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v610)

Question 1

Simplify the radical expressions.

$$\sqrt{28} \qquad\qquad \sqrt{8} \qquad\qquad \sqrt{45}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x-7)^2 - 6}{2} \;=\; 15$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 16x = -55$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 4x^2 - 40x + 91$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v611)

Question 1

Simplify the radical expressions.

$$\sqrt{50} \qquad\qquad \sqrt{44} \qquad\qquad \sqrt{45}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x+5)^2 + 5}{9} = 6$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 10x = -16$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 4x^2 + 24x + 44$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v612)

Question 1

Simplify the radical expressions.

$$\sqrt{44} \qquad\qquad \sqrt{45} \qquad\qquad \sqrt{20}$$

Question 2

Find all solutions to the equation below:

$$2\left((x+7)^2 + 10\right) \;=\; 70$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 12x \;=\; 64$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \;=\; 2x^2 - 16x + 37$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v613)

Question 1

Simplify the radical expressions.

$$\sqrt{50} \qquad\qquad \sqrt{44} \qquad\qquad \sqrt{63}$$

Question 2

Find all solutions to the equation below:

$$2(x-4)^2 + 8 \;=\; 80$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 10x \;=\; 56$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \;=\; 2x^2 - 16x + 39$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam__practice: Radicals and Squares (v614)

Question 1

Simplify the radical expressions.

$$\sqrt{75} \qquad\qquad \sqrt{28} \qquad\qquad \sqrt{98}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x-8)^2 + 4}{2} \;=\; 52$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 6x \;=\; 40$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \;=\; 2x^2 - 12x + 26$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v615)

Question 1

Simplify the radical expressions.

$$\sqrt{75} \qquad\qquad \sqrt{98} \qquad\qquad \sqrt{8}$$

Question 2

Find all solutions to the equation below:

$$8\left((x-7)^2 - 10\right) = 48$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 16x \ = \ 80$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \ = \ 3x^2 - 24x + 42$$

Express the function in **vertex form** and identify the **location** of the vertex.

Name:

at1121exam_practice: Radicals and Squares (v616)

Question 1

Simplify the radical expressions.

$$\sqrt{45} \qquad\qquad \sqrt{12} \qquad\qquad \sqrt{8}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x-6)^2 + 5}{7} = 3$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 6x \ = \ 55$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \ = \ 4x^2 - 40x + 94$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v617)

Question 1

Simplify the radical expressions.

$$\sqrt{28} \qquad\qquad \sqrt{8} \qquad\qquad \sqrt{75}$$

Question 2

Find all solutions to the equation below:

$$2\left((x+5)^2 + 7\right) = 46$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 16x = -55$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 4x^2 + 24x + 45$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v618)

Question 1

Simplify the radical expressions.

$$\sqrt{18} \qquad\qquad \sqrt{98} \qquad\qquad \sqrt{75}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x-9)^2}{3} - 8 \;=\; 4$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 8x = -7$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 2x^2 - 24x + 77$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v619)

Question 1

Simplify the radical expressions.

$$\sqrt{98} \qquad\qquad \sqrt{27} \qquad\qquad \sqrt{12}$$

Question 2

Find all solutions to the equation below:

$$2(x-4)^2 - 10 \;=\; 40$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 16x = -39$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 2x^2 - 12x + 13$$

Express the function in **vertex form** and identify the **location** of the vertex.

at1121exam_practice: Radicals and Squares (v620)

Question 1

Simplify the radical expressions.

$$\sqrt{28} \qquad\qquad \sqrt{99} \qquad\qquad \sqrt{18}$$

Question 2

Find all solutions to the equation below:

$$\frac{(x-10)^2}{6} - 7 \; = \; -1$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 8x = 9$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y = 4x^2 + 40x + 97$$

Express the function in **vertex form** and identify the **location** of the vertex.